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Equivariant gerbes over compact simple Lie groups

We will discuss S^1 -gerbes over a Lie groupoid (or more precisely, a stack), and describe their Dixmier-Douady class in terms of connection-like data. As an example, we present, for a compact simple Lie group G , an infinite dimensional module of S^1 -gerbe whose Dixmier-Douady class corresponds to the canonical generator of the equivariant cohomology $H_G^3(G)$.

(joint work with Kai Behrend and Bin Zhang.)